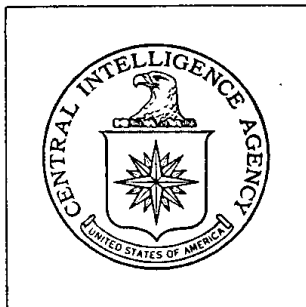


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DIRECTORATE OF
INTELLIGENCE

**Industrial Facilities
(Non-Military)**

Basic Imagery Interpretation Report

Selected Iron and Steel Plants

China

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DATE June 1969

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CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence
Imagery Analysis Service

INSTALLATION OR ACTIVITY NAME					COUNTRY	
Selected Iron and Steel Plants					CH	
UTM COORDINATES	GEOGRAPHIC COORDINATES	CATEGORY	BE NUMBER	COMIREX NO.	WAC-PIC No.	
See Table	See Table	See Table	See Table	See Table	See Table	
MAP REFERENCE						
See Respective Plant References						
LATEST IMAGERY USED				NEGATION DATE (If required)		
See Respective Plant References				Not Required		

Item No.	Installation Name	Coordinates		WAC PIC No.
		UTM	Geographic	
1	An-ning Iron and Steel Plant Kun-ming	48RTC466586	24-54-58N 102-29-40E	0496-27-C
2	An-shan Iron and Steel Plant	51TVF998535	41-08-14N 122-59-54E	0289-1-C
3	Chiang-yu Iron and Steel Plant	48RVL777144	31-45-47N 104-45-50E	0495-62
4	Chiu-chuan Iron and Steel Plant	47SMQ630019	39-46-00N* 098-34-00E	0332-2-C
5	Chung-ching Iron and Steel Plant No. 1	48RXH444632	29-29-05N 106-29-30E	0495-10-S
6	Fu-la-erh-chi Steel Plant	51TWN470262	47-11-30N 123-37-07E	0283-36-E
7	Fu-shun Iron and Steel Plant West*	51TWG640325	41-50-20N 123-46-00E	None
8	Fu-shun Steel Plant	51TWG668322	41-50-11N 123-48-04E	0290-36-F2
9	Hang-chou Iron and Steel Plant	51RTD272621	30-21-30N 120-09-40E	0492-16-K
10	Hsiang-tan Iron and Steel Plant	49RFA877783	27-48-50N 112-54-30E	0497-10-A
11	Hsiang-tan Iron Plant	49RFA818953	27-58-10N 112-50-55E	0497-10-C
12	Hsuan-hua Iron and Steel Plant Lung-yen	50TLK373949	40-35-30N 115-04-15E	0289-13-C
13	Hsuan-hua Iron Plant Lung-yen	50TLK347950	40-35-31N 115-02-26E	0289-13-C1
14	Huang-shih Iron and Steel Plant Ta-yeh	50RLJ193429	30-12-18N 115-07-10E	0493-29-D
15	Kuang-chou Iron and Steel Plant	49QGR296524	23-04-03N 113-14-34E	0614-2-W2

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Item No.	Installation Name	Coordinates		WAC PIC No.
		UTM	Geographic	
16	Ma-an-shan Iron and Steel Plant	50RPL393084	31-41-48N 118-28-27E	0493-24-B
17	Nan-chang Iron and Steel Plant	50RMG016686	28-38-38N 115-59-30E	0493-25-H
18	Nan-ching Iron Plant Yung-li Steel	50SPL654642	32-12-08N 118-45-02E	0386-17-V
19	Pao-tou Iron and Steel Plant Kun-tu-lun	49TCR958017	40-40-11N 109-45-58E	0288-13
20	Pen-chi Iron and Steel Plant Kung-yuan	51TWF614693	41-16-48N 123-44-20E	0290-51-F2
21	Pen-chi Iron Plant	51TWF636738	41-19-13N 123-45-48E	0290-51-B2
22	Shang-hai Iron and Steel Plant No. 1	51RUE552698	31-21-02N 121-28-52E	0492-28-Y5
23	Shang-hai Iron and Steel Plant No. 3*	51RUE553516	31-11-08N 121-28-55E	0492-28-Y4
24	Shang-hai Steel Plant No. 5	51RUE552737	31-23-08N 121-28-49E	0492-28-Y6
25	Shao-kuan Iron and Steel Plant Ma-pa	49RGT654330	24-41-52N 113-37-30E	0498-16-G1
26	Shen-yang Iron and Steel Plant	51TWG423306	41-49-49N 123-30-24E	0290-55-Z1
27	Shih-ching-shan Iron and Steel Plant	50SMV278180	39-54-23N 116-09-15E	0381-50-K
28	Shih-tsui-shan Iron and Steel Plant	48SXU554340	39-09-00N 106-48-00E	None
29	Tai-yuan Iron and Steel Plant	49SFM362971	37-55-03N 112-32-36E	0382-12-G
30	Tang-shan Steel Plant	50SPJ024886	39-38-11N 118-12-06E	0381-65-E
31	Tien-ching Steel Plant No. 2	50SNU231260	39-04-57N 117-16-02E	0381-67-K2
32	Wu-han Iron and Steel Plant	50RKJ543921	30-37-34N 114-26-37E	0493-38-H
33	Wu-lu-mu-chi Iron and Steel Plant August 1	45TWJ232546	43-50-30N 087-17-20E	0330-4-0

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*NOTE: The respective name or coordinates given in the Data Block are from the Basic Encyclopedia and are incorrect. The correct coordinates and names are as follows:

Item 4	39-48-35N 098-20-51E
Item 7	Fu-shan Iron Plant
Item 23	Shang-hai Steel Plant No. 3
Item 28	39-18-45N 106-47-15E

Action has been initiated through appropriate channels to have the Basic Encyclopedia corrected.

Requirement†

EXSUBCOM - BR-N/002-69

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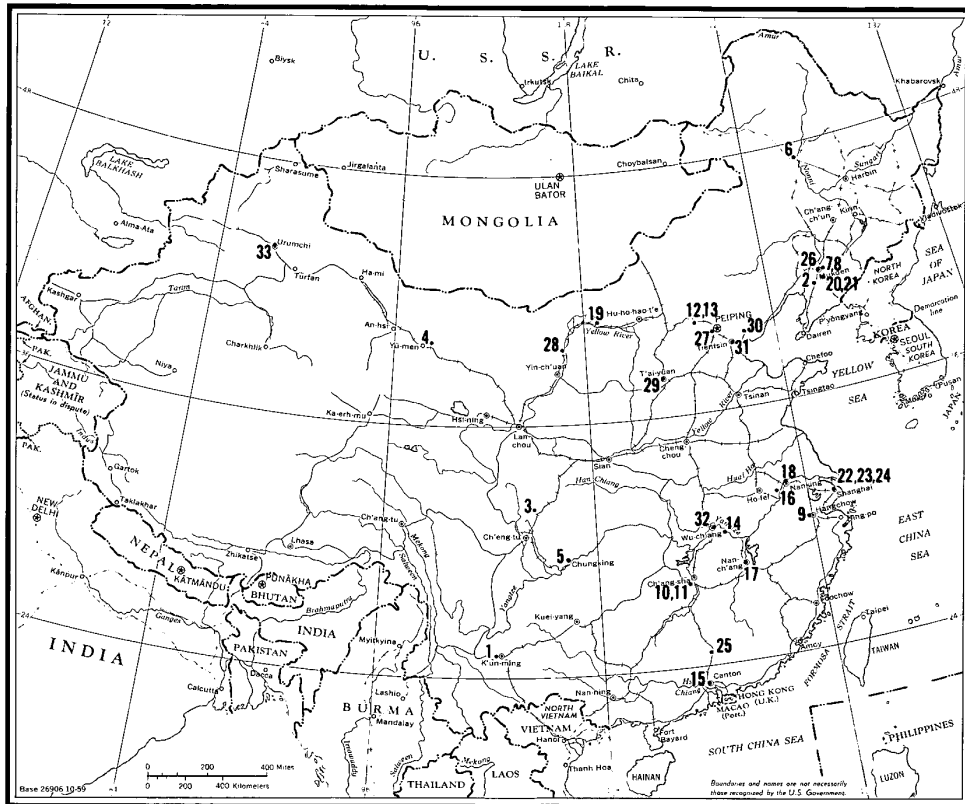


FIGURE 1. LOCATION MAP OF SELECTED IRON AND STEEL PLANTS IN COMMUNIST CHINA.

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ABSTRACT

This report presents detailed imagery-derived studies of 33 major iron and steel plants in China. These plants represent all but a small fraction of the country's known iron and steel production facilities.

During the 1968-early 1969 period of this study, 29 of the 33 plants, including the four primary plants at An-shan, Wu-han, Pao-tou, and Shang-hai, were observed in operation. In addition, the Chinese continued to expand and modernize their steel producing furnaces and rolling facilities during this period. Basic oxygen furnaces, which are very efficient producers of high-quality steel, have been identified at four plants: medium-size furnaces exist at Shang-hai No. 1 and Tien-ching, a small facility is located at Shih-ching-shan and a large one is under construction at Tai-yuan. Three plants contain possible electric furnaces used to produce small amounts of high-quality alloy steel. These are Chiang-yu, Shao-kuan, and Shang-hai No. 5. Expansion of the open-hearth furnaces at Shang-hai No. 3, Pao-tou, and Wu-han has also increased China's capability to produce steel. As these new furnaces were being added, the number of less efficient side-blown converter shops has decreased. New rolling mills or additions to existing mills have been identified at Tai-yuan, Pao-tou, Chung-ching, Huang-shih, Nan-chang, and Shao-kuan, increasing the capability to produce finished steel products. Construction of the Chiu-chuan plant has proceeded at a fairly high rate since 1966, but the plant remains inoperable.

The report includes an annotated photograph, mensuration of significant features, a discussion of plant status and activity, and reference data for each of the plants studied.

INTRODUCTION

The majority of the Chinese iron and steel plants are located in the industrial north or along the Yangtze River east of Wu-han. Information relative to location, environment, and related installations is included with the individual descriptions of the plants.

Four processes are currently employed in China to produce steel from blast furnace pig iron: open-hearth, basic oxygen, side-blown converter and electric. The open-hearth furnaces in China are typical of those used world wide. The basic oxygen furnaces, which are the newest, fastest, and most economical for producing steel, reduce the impurities by blowing oxygen into the top of a converter. In the side-blown converters, which are slowly being phased out, process air is blown into the side of the vessel above the surface of the molten pig iron. In the electric furnace the impurities are reduced in a furnace that is electrically heated.

The length and width measurements indicated on the key to annotations when multiplied, may not equal the corresponding square feet of roof cover. The area of roof cover was determined by taking into account all protrusions and accurately determining the total square feet. For brevity, the level of production activity is indicated as inactive (no visible signs of plant operation), low activity (up to 30 percent of the total plant facilities in operation), moderate activity (between 30 and 69 percent of the total plant facilities in operation), and high activity (from 70 to 100 percent of the total plant facilities in operation).

The approximate size of the blast furnaces was determined by comparative analysis. Blast furnaces are described as small (up to 150 tons/day), medium (200-700 tons/day), and large (700-1300 tons/day).

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FIGURE 2. AN-NING IRON AND STEEL PLANT, KUN-MING,

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AN-NING IRON AND STEEL PLANT, KUN-MING

BASIC DESCRIPTION

The An-ning Iron and Steel Plant, Kun-ming is located in the central sector of An-ning, south of the Ming-i Ho (River). It is road and rail served, partially secured, and occupies an area approximately 6,500 by 3,000 feet.

The Iron and Steel Plant contains an iron ore pelletization plant, two by-product coke oven batteries (one under construction) with an associated coke by-products section, four blast furnaces, two side-blown converter shops, a blooming and slabbing mill, and two rolling mills. An unidentified building (Figure 2, Item 11) which was observed incomplete in 1962 remains unchanged. Work on the iron ore pelletization plant (Item 1) and the by-products coke section (Items 3 and 5) was started in February 1967, and with the exception of one by-product coke oven battery was in the final stage of construction in February 1969.

Moderate activity was observed at the plant on [redacted]
[redacted] A high level of activity was
observed at the plant on [redacted]

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Key to Annotations

<u>Item No.</u>	<u>Description</u>	<u>Dimensions (Ft)</u>	<u>Roof Cover (Sq Ft)</u>	<u>Remarks</u>
1	Iron Ore Pelletization Plant			
2	Iron Pellet Storage Silos (10)			
3	Coke By-products Section			
4	Blast Furnaces (4)			Medium
5	By-product Coke Oven Batteries (2)			1 Battery under construction
6	Side-blown Converter Shop Irregular		98,735	
7	Side-blown Converter Shop	385 x 115	45,105	
8	Blooming and Slabbing Mill	640 x 130	85,710	
9	Rolling Mill	1,100 x 130	138,070	
10	Rolling Mill	740 x 80	56,730	
11	U/I Building Under Construction			Construction suspended

REFERENCES

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Map

ACIC. US Air Target Chart, Series 200, Sheet MO496-17HL, 2nd edition,
November 65. Scale 1:200,000 (SECRET)

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1. CIA. DDI/IAR 85014, Expansion of Chinese Iron and Steel Plants 1965-1967,
August 1967. TOP SECRET

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AN-SHAN IRON AND STEEL PLANT

BASIC DESCRIPTION

The An-shan Iron and Steel Plant is located in the northwest sector of An-shan, adjacent to the An-shan Railroad Station, Yards, and Shops Main [REDACTED] [REDACTED] It is road and rail served, partially secured, and occupies an area approximately 15,000 by 9,000 feet.

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The iron and steel plant contains 12 by-product coke oven batteries with associated by-products coke section, nine blast furnaces, three open-hearth furnace buildings which contain 24 furnaces, an ingot stripping building, three rolling mills (one with a blooming and slabbing mill), and three finishing mills. The plant also contains the An-shan Heat and Thermal Power Plant [REDACTED] an ore concentration plant, a possible briquetting plant, a probable fire brick plant, two forge shops, two forges/foundries, an air separation plant, a producer gas plant, two fabrication buildings, two railroad car repair shops, numerous support buildings, and small finishing mills. The air separation plant supplies oxygen to at least one of the three large open-hearth furnace buildings and to the producer gas plant.

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The only change in facilities since [REDACTED] 1/ was the removal of one medium blast furnace between [REDACTED]

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A low level of activity was observed at the plant on photography of [REDACTED] [REDACTED] however, all other missions between January 1967 and November 1968 showed a high level of activity.

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REFERENCES

25X1

Map

15th RTS. US Air Target Chart, Series 200, Sheet 0289-20HL, 2nd edition, Mar 63, Scale 1:200,000 (SECRET)

Document

1. CIA. DDI/IAR 85014, Expansion of Chinese Iron and Steel Plants, 1965-1967, August 1967, [REDACTED] (TOP SECRET) [REDACTED]

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Key to Annotations

<u>Item No.</u>	<u>Description</u>	<u>Dimensions (Ft)</u>	<u>Roof Cover (Sq Ft)</u>	<u>Remarks</u>
1	Air Separation Plant			
2	Producer Gas Plant			
3	Forge/Foundry	Irregular		
4	Forge/Foundry	960 x 550	530,000	
5	Probable Fire Brick Plant			
6	Steam Plant			
7	Open-hearth Furnace Building	1,770 x 350	671,900	10 Stacks
8	Open-hearth Furnace Building	1,020 x 210	207,050	5 Stacks
9	Blast Furnaces (9)			1 Large 8 Medium 9 Stacks
10	Open-hearth Furnace Building	1,210 x 250	402,500	
11	Rolling Mill	1,600 x 520	860,000	
12	Forge Shop	920 x 230	220,040	
13	Fabrication Building	620 x 225	139,500	
14	Possible Iron Foundry	Irregular		
15	Railroad Car Repair Shop	Irregular	94,192	
16	Coke By-products Section			
17	By-product Coke Oven Batteries (12)			
18	Railroad Car Repair Shop	675 x 170	114,750	
19	Ingot Stripping Building	360 x 200	72,000	
20	Finishing Mill	1,240 x 350	478,050	
21	Transformer Substation			
22	Rolling Mill		1,608,130	
	a. Soaking Pits	1,075 x 140		8 Stacks
	b. Blooming and Slabbing Mill	1,400 x 450		
	c. Rolling Mill	2,135 x 280		
23	Rolling Mill	2,100 x 450	961,800	
24	Finishing Mill	620 x 300	185,275	
25	Forge Shop	Irregular	49,450	
26	Finishing Mill	Irregular	817,985	
27	Fabrication Building	1,500 x 200	300,000	
28	Possible Briquetting Plant	450 x 90	40,500	

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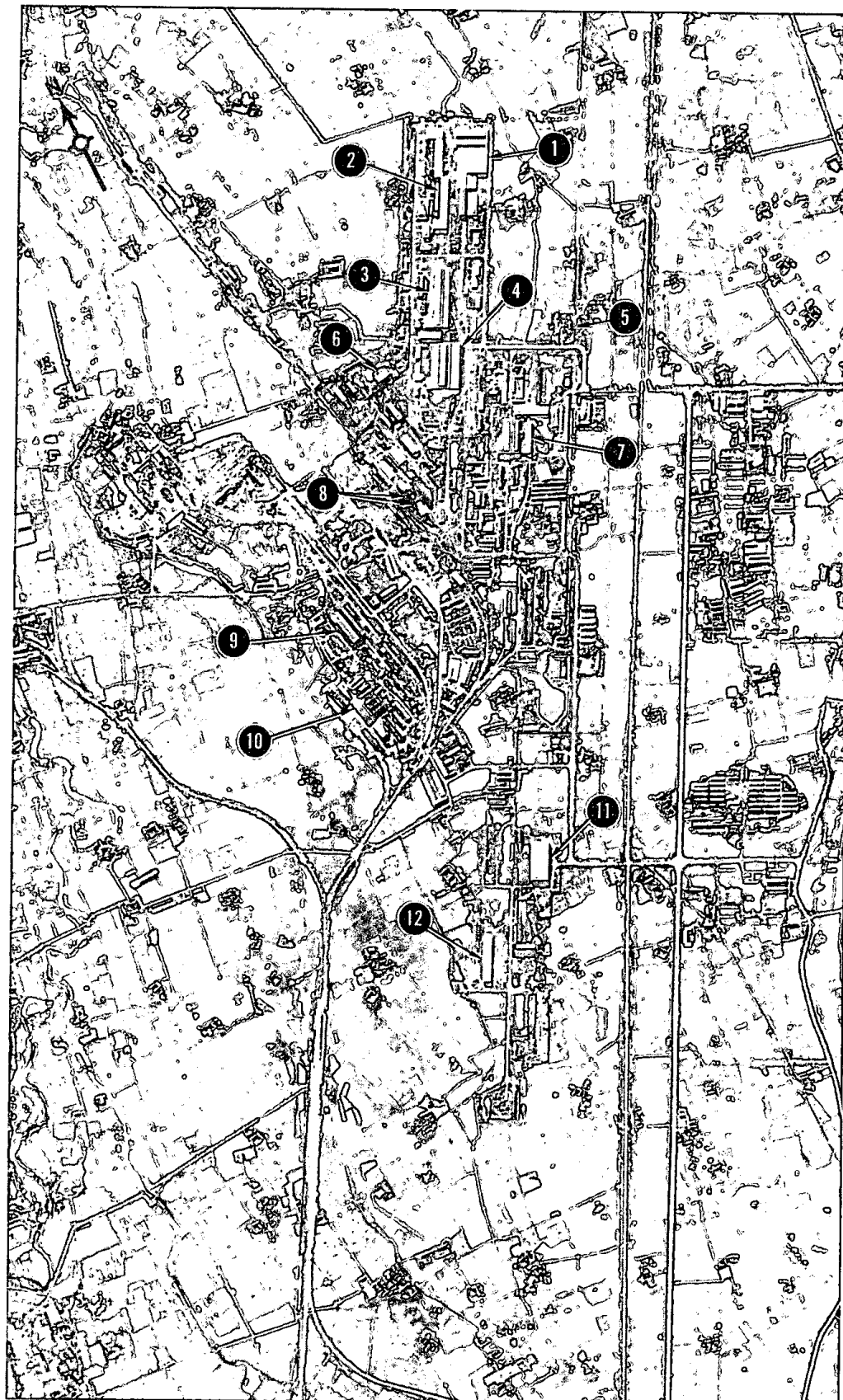


FIGURE 4. CHIANG-YU IRON AND STEEL PLANT,

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CHIANG-YU IRON AND STEEL PLANT

BASIC DESCRIPTION

The Chiang-yu Iron and Steel Plant is located in the southern sector of the city of Chiang-yu, China approximately 76 nm north-northwest of Cheng-tu. It is rail and road served, partially secured by a wall, and occupies an area approximately 8,500 by 4,000 feet.

The iron and steel plant contains two blast furnaces, a possible electric furnace building, two rolling mills, a foundry, a forge shop, three fabrication buildings, one unidentified building, a steam plant, and a probable transformer substation.

Construction on the rolling mill (Item 1), reported under construction in November 1966,1/ was continuing at a moderate rate when observed in January 1967. This facility was complete when observed in November 1968. Construction of the unidentified building (Item 12) was started subsequent to photography of January 1967 and the building was approximately 50 percent complete when last observed in November 1968.

A moderate level of activity was observed at the plant in January 1967 and November 1968.

Key to Annotations

Item No.	Description	Dimensions (Ft)	Roof Cover (Sq Ft)	Remarks
1	Rolling Mill	Irregular	145,395	
2	Rolling Mill	785 x 100	87,100	
3	Forge Shop	485 x 170	88,200	3 Stacks
4	Possible Electric Furnace Building	390 x 250	97,560	
5	Probable Transformer Substation			2 Transformers
6	Steam Plant			
7	Fabrication Building	295 x 255	79,540	
8	Blast Furnaces (2)			Small
9	Fabrication Building	305 x 90	27,450	
10	Foundry	350 x 210	73,500	
11	Fabrication Building	320 x 150	48,000	
12	U/I Building			Under Construction

REFERENCES

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Map

548th [] US Air Target Chart, Series 200, Sheet M0495-3HL, 1st edition, Nov 66, Scale 1:200,000 (SECRET [])

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1. CIA. DDI/IAR 85014, Expansion of Chinese Iron and Steel Plants, 1965-1967, August 1967, [] (TOP SECRET [])

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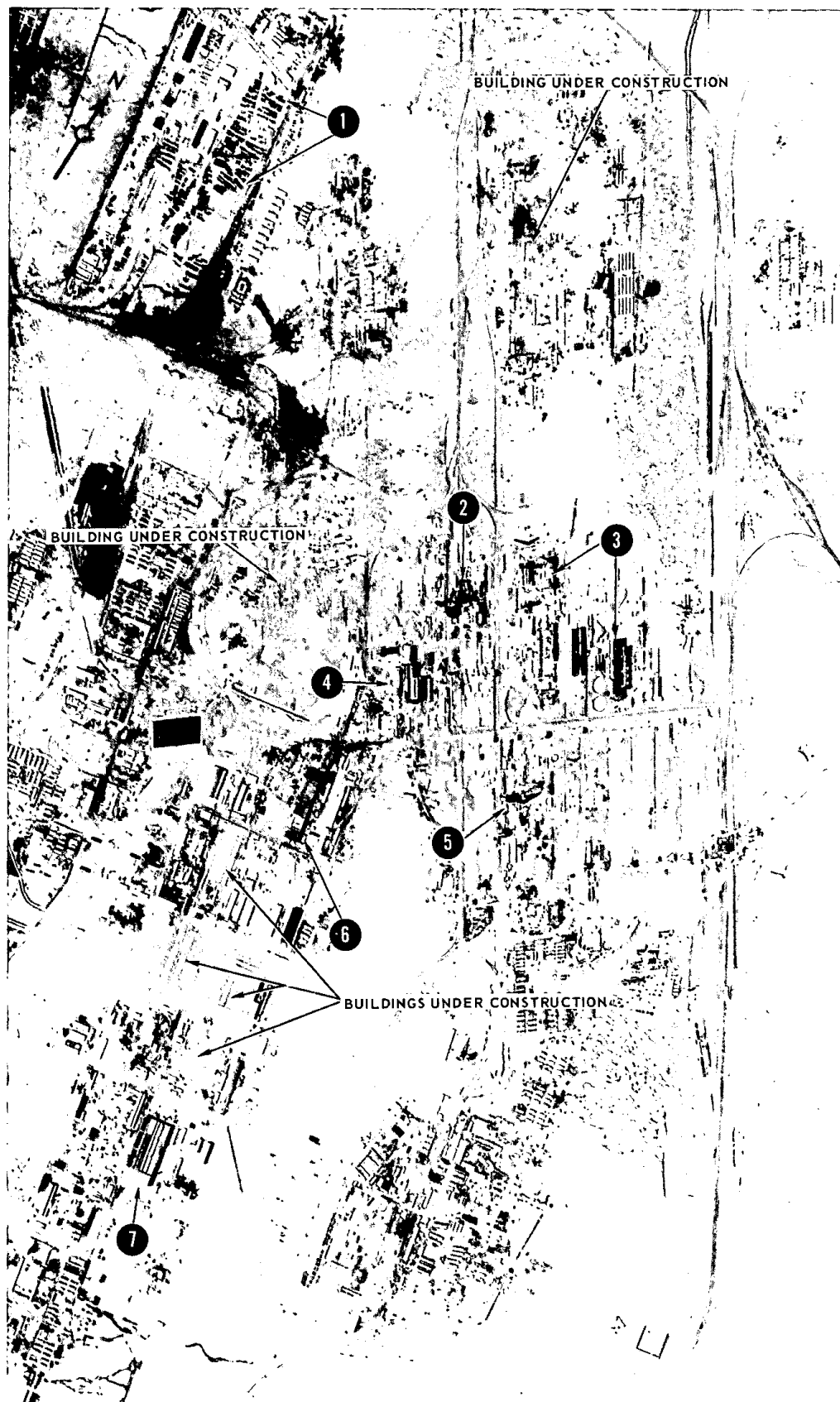


FIGURE 5. CHIU-CHUAN IRON AND STEEL PLANT,

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CHIU-CHUAN IRON AND STEEL PLANT

BASIC DESCRIPTION

The Chiu-chuan Iron and Steel Plant is located on the eastern edge of Chia-yu-kuan, 9 nm northwest of Chiu-chuan. The plant is rail and road served and occupies an area of approximately 15,000 by 7,000 feet. It has no identifiable security. The Chia-yu-kuan Thermal Power Plant is situated immediately northwest of the iron and steel plant.

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Construction of this plant started prior to August 1962, but proceeded slowly until September 1966. Since then construction has continued at a fairly high rate on all the facilities, but only the large rolling mill has been completed. When last observed in September 1968, work was continuing (Figure 5) on the following: the by-products coke oven batteries, an iron ore concentration plant and roasting section, one large blast furnace, a probable ore trestle for a second blast furnace, a fabrication building, a probable thermal power plant, and footings for several additional buildings.

As of September 1968 photography, all facilities remained in various stages of construction and the plant was not yet operational.

Key to Annotations

Item No.	Description	Dimensions (Ft)	Roof Cover (Sq Ft)	Remarks
1	Construction Materials and Storage Area			
2	Blast Furnace			Large, Under Construction
3	Ore Concentration and Roasting Section			Under Con- struction
4	Probable Thermal Power Plant			Under Con- struction
5	By-Product Coke Oven Batteries (2)			Under Con- struction
6	Rolling Mill	645 x 190 245 x 90	111,500 22,315	
7	Fabrication	660 x 320	221,095	Under Con- struction

REFERENCES

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Map

15th RTS. US Air Target Chart, Series 200, Sheet M0332-3HL, 2nd edition, August 1965. Scale 1:200,000 (SECRET)

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CHUNG-CHING IRON AND STEEL PLANT NO. 1

BASIC DESCRIPTION

The Chung-ching Iron and Steel Plant is located approximately 3 nm southeast of Chung-ching (Chungking) along the north bank of Chang Chiang (Yangtze River). The plant is road and rail served, partially secured by a wall, and occupies an area approximately 11,000 by 2,000 feet.

The iron and steel plant contains two by-product coke oven batteries, a coke by-products section, three blast furnaces, at least two open-hearth furnaces, four rolling mills, a foundry, and a fabrication building.

One of the rolling mills (Figure 6, Item 10) was expanded by approximately 25 percent between June 1963 and February 1967. The open-hearth furnace building (Item 7) was expanded by approximately 20 percent between June 1963 and June 1967. The previously identified side-blown converter shop.1/ was converted to a fabrication building by August 1967. An addition to the north side of this building was observed under construction on photography of [REDACTED]

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A high level of activity was observed at the plant on all referenced imagery from [REDACTED] except that of [REDACTED] when haze and poor quality precluded interpretation.

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Key to Annotations

Item No.	Description	Dimensions (Ft)	Roof Cover (Sq Ft)	Remarks
1	Coke By-products Section			
2	By-product Coke Oven Batteries (2)			
3	Blast Furnaces (2)			Medium
4	Foundry	680 x 85	59,375	
5	Fabrication Building	575 x 125	75,245	
6	Rolling Mill	645' x 260	160,755	
7	Open-hearth Furnace Building	Irregular	82,385	2 Stacks
8	Blast Furnace			Medium
9	Rolling Mill	750 x 115	99,225	
10	Rolling Mill		329,360	
	a. Probable Blooming and Slabbing Mill	430 x 195		
	b. Rolling Mill	Irregular		
11	Rolling Mill	1,000 x 95	113,575	

REFERENCES

25X1

Map

ACIC. US Air Target Chart, Series 200, Sheet 0495-19HL, 2nd edition, Dec 63
Scale 1:200,000 (SECRET)

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1. CIA. DDI/IAR-85014, Expansion of Chinese Iron and Steel Plants 1965-1967, August 1967, [REDACTED] (TOP SECRET)

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FU-LA-ERH-CHI STEEL PLANT

BASIC DESCRIPTION

The Fu-la-erh-chi Steel Plant is located in the southern sector of the city of Fu-la-erh-chi. The plant is road and rail served, partially secured, and occupies an area of approximately 5,000 by 2,500 feet. The collocated Fu-la-erh-chi Heat and Thermal Power Plant [] is located on the western edge of the steel plant. 25X1

The steel plant contains at least three open-hearth furnaces, several side-blown converters, one rolling mill, a forge shop, two foundries, several fabrication buildings and a producer gas plant.

A high level of activity was observed at the plant on [] 25X1

[] Moderate activity was observed [] 25X1

[] and low activity on [] 25X1 25X1

Key to Annotations

Item No.	Description	Dimensions (Ft)	Roof Cover (Sq Ft)	Remarks
1	Fabrication Building	1,010 x 260	262,695	
2	Probable Foundry	415 x 95	45,620	
3	Rolling Mill		468,500	
	a. Possible Soaking Pits	320 x 265		
	b. Rolling Mill	540 x 170		
	c. Rolling Mill	535 x 150		
	d. Rolling Mill	535 x 120		
	e. Finishing Mill	515 x 270		
4	Side-blown Converter Shop	560 x 100	57,520	
5	Forge and Fabrication Building			
	a. Fabrication Building	365 x 295	106,850	
	b. Forge Shop	625 x 220	135,330	
6	Foundry	680 x 270	173,840	
7	Open-hearth Furnace Building	405 x 325	130,744	3 Stacks
8	Producer Gas Plant	-	-	

REFERENCES

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Map

ACIC. US Air Target Chart, Series 200, Sheet 0283-6HL, 2nd edition, April 64, Scale 1:200,000 (SECRET/CONTROLLED DISSEM).

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FIGURE 8. FU-SHUN IRON AND STEEL PLANT WEST.

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FU-SHUN IRON AND STEEL PLANT WEST

BASIC DESCRIPTION

The Fu-shun Iron and Steel Plant West is located 5.6 nm west of Fu-shun. The Fu-shun Steel Plant [] is located 1.5 nm east of this plant. The Fu-shun Iron and Steel Plant is road and rail served, partially secured by a wall, and occupies an area approximately 7,200 by 2,350 feet.

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The plant consists of 38 beehive coke ovens, one small and two medium blast furnaces, two rolling mills, and an iron ore concentration plant. No steel producing facility is located at this plant.

No apparent construction activity has occurred at this plant since [] []/ A high level of activity was observed on all the referenced imagery except in June and August 1968 when poor-quality imagery precluded analysis.

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Key to Annotations

Item No.	Description	Dimensions (Ft)	Roof Cover (Sq Ft)	Remarks
1	Rolling Mill	Irregular	97,400	
2	Rolling Mill	495 x 100	49,500	
3	Beehive Coke Ovens (8)			
4	Beehive Coke Ovens (30)			
5	Blast Furnaces (3)			1 Small 2 Medium
6	Ore Concentration Plant			

REFERENCES

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Map

[] US Air Target Chart, Series 200, Sheet M0290-11HL, 4th edition.
Jan 66, Scale 1:200,000 (SECRET)

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1. CIA. DDI/IAR 85014, Expansion of Chinese Iron and Steel Plants 1965-1967, August 1967, [] (TOP SECRET)

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FU-SHUN STEEL PLANT

BASIC DESCRIPTION

The Fu-shun Steel Plant is located 4.2 nm west of Fu-shun. It is road and rail served and occupies an area of approximately 8,000 by 1,800 feet. The Fu-shun Iron and Steel Plant West [] is located 1.5 nm to the west and the Fu-shun Alumina and Aluminum Plant [] is located adjacent to the east side of the plant within the same secured area.

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The steel plant contains two rolling mills, six forges/foundries, two foundries, two fabrication buildings, and a transformer substation. A side-blown converter shop was converted to a rolling mill (Figure 8, Item 6) between [] [] 1/ Since this modification occurred the plant has had no identifiable steel producing furnaces. The facility could contain an electric furnace, but the scale and quality of available photography preclude its identification. No other construction was observed on photography from [] []

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A high level of activity was observed in the plant on all the imagery from [] except on [] when poor quality photography precluded analysis.

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Key to Annotations

Item No.	Description	Dimensions (Ft)	Roof Cover (Sq Ft)	Remarks
1	Forge/Foundry Complex	Irregular	429,560 (Total)	
a.			215,295	
b.			84,435	
c.			37,125	
d.			29,050	
e.			43,655	
2	Foundry	Irregular	65,760	
3	Foundry	415 x 120	49,030	
4	Transformer Substation			
5	Fabrication Building	Irregular	108,000	
6	Rolling Mill	885 x 150	132,750	
7	Rolling Mill	Irregular	426,400	
8	Fabrication Building	Irregular	93,930	
9	Forge/Foundry	420 x 90	37,000	

REFERENCES

25X1

Map

[] US Air Target Chart, Series 200, Sheet M0290-IIHL, 4th edition, Jan 66, Scale 1:200,000 (SECRET [])

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Document

1. CIA. DDI/IAR 85014, Expansion of Chinese Iron and Steel Plants, 1965-1967, August 1967, [] (TOP SECRET [])

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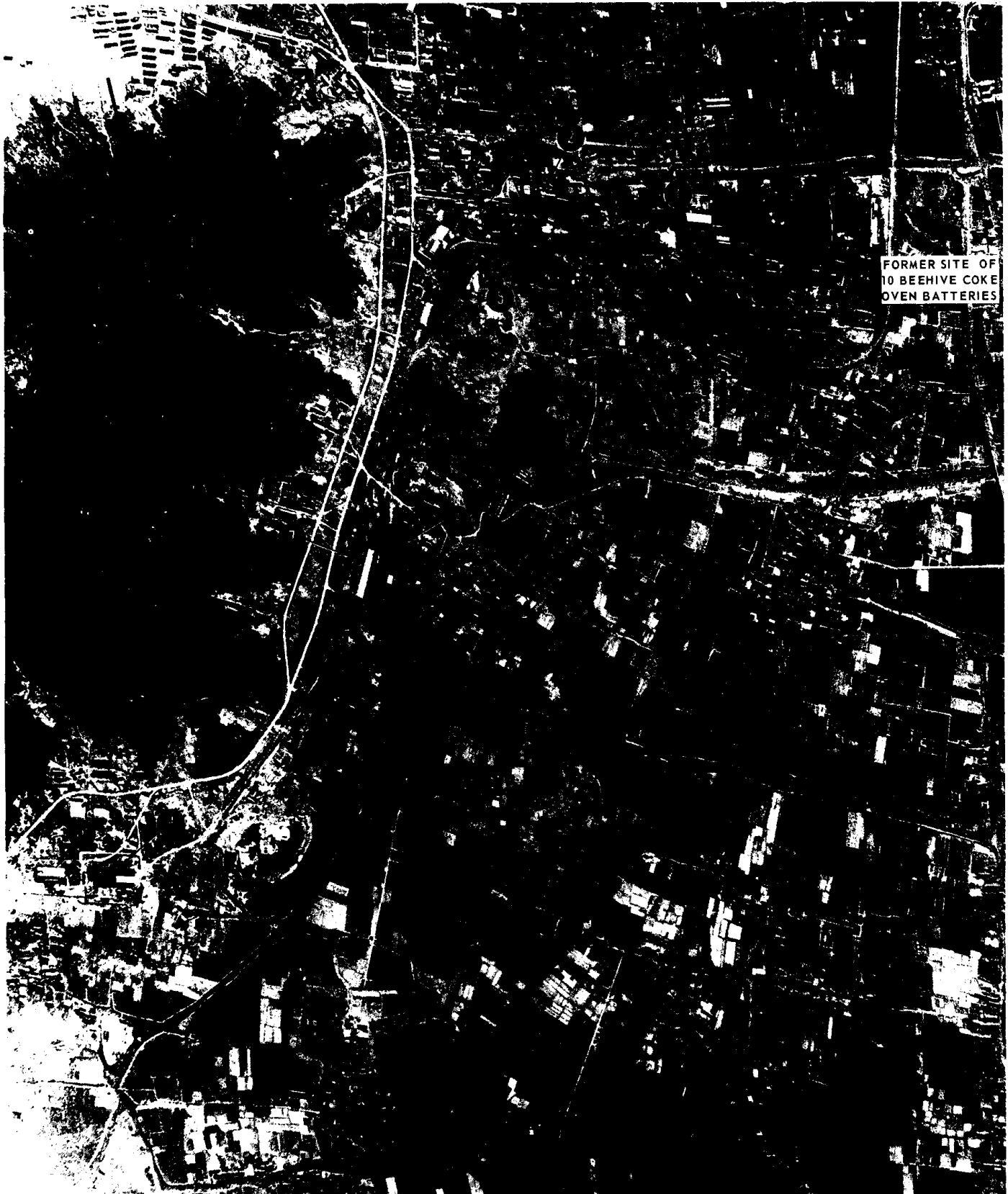


FIGURE 10. HANG-CHOU IRON AND STEEL PLANT.

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HANG-CHOU IRON AND STEEL PLANT

BASIC DESCRIPTION

The Hang-chou Iron and Steel Plant is located 6.8 nm north of Hang-chou. It is road and rail served, partially secured by a wall, and occupies an irregular area approximately 8,000 by 5,500 feet.

The plant contains a limestone preparation building, four blast furnaces, one side-blown converter shop, three rolling mills, three fabrication buildings and a thermal power plant.

The beehive coke oven batteries previously located at this facility were removed between January 1967^{1/} and November 1968. Therefore, coke must be transported into the facility from another source.

A moderate level of activity was observed at the plant on all photographic missions referenced from [REDACTED]

25X1

Key to Annotations

Item No.	Description	Dimensions (Ft)	Roof Cover (Sq Ft)	Remarks
1	Limestone Preparation Building	345 x 60	20,700	-
2	Thermal Power Plant	200 x 140	28,000	-
3	Blast Furnaces (4)	-	-	2 Small 2 Medium
4	Fabrication Building	280 x 140	39,800	-
5	Side-blown Converter Shop	500 x 100	50,000	-
6	Rolling Mill	560 x 75	54,950	-
7	Rolling Mill	820 x 160	131,200	-
8	Rolling Mill	560 x 120	58,050	-
9	Fabrication Building	460 x 120	55,200	-
10	Fabrication Building	290 x 125	35,250	-

REFERENCES

25X1

Map

15th RTS. US Air Target Chart, Series 200, Sheet 0492-IIHL, 3rd edition, April 64 (SECRET)

Document

1. CIA. DDI/IAR 85014, Expansion of Chinese Iron and Steel Plants 1965-1967, August 1967, [REDACTED] (TOP SECRET [REDACTED])

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HSIANG-TAN IRON AND STEEL PLANT

BASIC DESCRIPTION

The Hsiang-tan Iron and Steel Plant is located 2.5 nm south of Hsiang-tan. The plant is rail and road served and occupies an area of approximately 5,000 by 4,500 feet. It has no identifiable security.

The plant consists of two by-products coke oven batteries, a coke by-products section, one blast furnace, a probable open-hearth furnace under construction, one large rolling mill, a foundry, a fabrication building, an assembly building, and a thermal power plant. When last observed on the photography of

25X1

this plant did not have a steel producing furnace in operation. The probable open-hearth furnace building (Figure II, Item II), when completed, will have at least two furnaces and possibly six. Little progress has been made on this building since .1/ The walls and one stack are still incomplete.

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A moderate level of activity was observed at the plant on all photographic missions referenced from

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REFERENCES

25X1

Map

15th RTS. US Air Target Chart, Series 200, Sheet M0497-5HI, 2nd edition, Nov 65, Scale 1:200,000 (SECRET)

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Document

I. CIA. DDI/IAR 85014, Expansion of Chinese Iron and Steel Plants 1965-1967, August 1967, (TOP SECRET)

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Key to Annotations

<u>Item No.</u>	<u>Description</u>	<u>Dimensions (Ft)</u>	<u>Roof Cover (Sq Ft)</u>	<u>Remarks</u>
1	Assembly Building	600 x 320	193,975	
2	Fabrication Building	550 x 275	173,040	
3	Foundry	445 x 120	54,856	
4	Storage Building	330 x 120	40,817	
5	Transformer Substation			
6	Rolling Mill		540,625	
	a. Possible Soaking Pits	425 x 155		
	b. Blooming and Slabbing Mill	470 x 130		
	c. Rolling Mill	450 x 210		
	d. Rolling Mill	1,350 x 205		
7	Blast Furnace			Medium
8	Coke By-products Section			
9	Thermal Power Plant			
10	By-product Coke Oven Batteries (2)			
11	Probable Open-hearth Furnace Building	635 x 255	165,125	1 Stack completed 1 Stack, construction suspended

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FIGURE 11. HSIANG-TAN IRON AND STEEL PLANT.

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FIGURE 12. HSIANG-TAN IRON PLANT.

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TOP SECRET

HSIANG-TAN IRON PLANT

BASIC DESCRIPTION

The Hsiang-tan Iron Plant is located about 7 nm northeast of Hsiang-tan, China. The plant is road and rail served, has no identifiable security system, and occupies an area approximately 3,000 by 700 feet.

The iron plant contains two beehive coke ovens, two completed blast furnaces, one incomplete blast furnace, and several storage buildings. A thermal power plant is collocated with the iron plant.

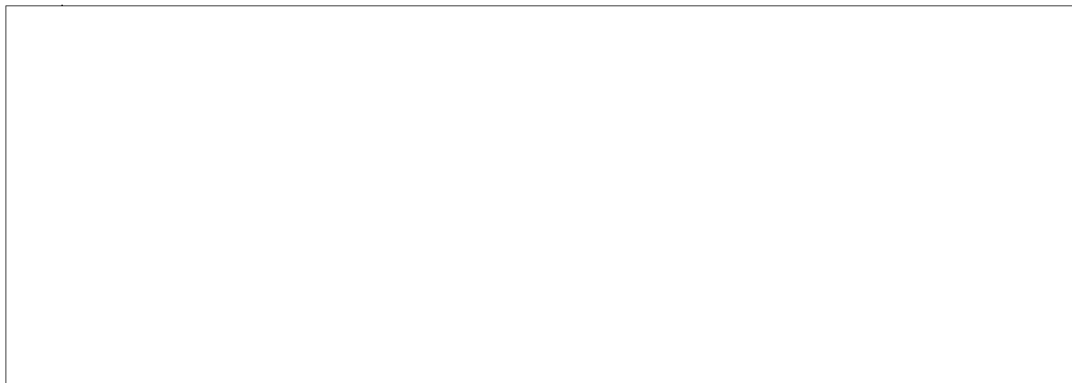
The iron plant was incomplete and inactive when first observed in March 1962 and no construction has occurred since then. Although the beehive coke ovens were possibly operating on [REDACTED], the blast furnaces were not observed in operation on any of the referenced imagery.

25X1

Key to Annotations

<u>Item No.</u>	<u>Description</u>	<u>Dimensions (Ft)</u>	<u>Roof Cover (Sq Ft)</u>	<u>Remarks</u>
1	Thermal Power Plant			
2	Blast Furnaces (3)			2. Completed, small, and 1 Incomplete
3	Beehive Coke Ovens (2)			

REFERENCES



25X1

Map

15th RTS. US Air Target Chart, Series 200, Sheet M0497-5HL, 2nd edition,
Nov 65, Scale 1:200,000 (SECRET [REDACTED])

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HSUAN-HUA IRON AND STEEL PLANT LUNG-YEN

BASIC DESCRIPTION

The Hsuan-hua Iron and Steel Plant Lung-yen is located on the southern edge of Hsuan-hua and north of the Ta-tung to Peiping rail line. It is road and rail served, partially secured by a wall, and occupies an area of approximately 11,000 by 3,500 feet. The Hsuan-hua Iron Plant Lung-yen [] is located 1.3 nm west of this plant.

25X1
25X1

The iron and steel plant contains a by-product coke oven battery, a coke by-products section, a limestone preparation plant, eight blast furnaces, and a side-blown converter shop.

No additional plant facilities have been constructed since September 1966. 1/ A high level of activity was observed at this plant on the nine photographic missions studied from []

25X1

Key to Annotations

<u>Item No.</u>	<u>Description</u>	<u>Dimensions (Ft)</u>	<u>Roof Cover (Sq Ft)</u>	<u>Remarks</u>
1	Blast Furnaces (2)			Medium
2	Blast Furnaces (6)			Small
3	Coke By-products Section			Not shown on graphic
4	By-product Coke Oven Battery			Not shown on graphic
5	Side-blown Converter Shop	505 x 115	58,075	
6	Limestone Preparation Plant			

REFERENCES

25X1

Map

15th RTS. US Air Target Chart, Series 200, Sheet M0289-2IHL, 5th edition, Aug 68, Scale 1:200,000 (SECRET [])

25X1
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1. CIA. DDI/IAR 85014, Expansion of Chinese Iron and Steel Plants 1965-1967, August 1967, [] (TOP SECRET [])

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HSUAN-HUA IRON PLANT LUNG-YEN

BASIC DESCRIPTION

The Hsuan-hua Iron Plant Lung-yen is located on the southern edge of Hsuan-hua, and south of the Ta-tung to Peiping rail line. It is road and rail served, partially secured by a wall, and occupies an area approximately 9,000 by 4,000 feet. The Hsuan-hua Iron and Steel Plant Lung-yen is located 1.3 nm east of this plant. 25X1

The Hsuan-hua Iron Plant Lung-yen consists of four blast furnaces, a rolling mill, and a transformer substation. It probably obtains steel for its rolling mill from the nearby Hsuan-hua Iron and Steel Plant Lung-yen and also probably provides pig iron to that plant.

No additional plant facilities have been constructed since September 1966 although there is photographic evidence which indicates that four small blast furnaces were dismantled prior to that date. A high level of activity was observed at the plant on all photographic missions referenced from 25X1 25X1

Key to Annotations

Item No.	Description	Dimensions (Ft)	Roof Cover (Sq Ft)	Remarks
1	Rolling Mill	895 x 50 110 x 105	19,750 11,550	-
2	Dismantled Blast Furnaces (4)	-	-	-
3	Blast Furnaces (2)	-	-	Small
4	Blast Furnaces (2)	-	-	Medium
5	Transformer Substation	-	-	2 Transformers

REFERENCES

25X1

Map

15th RTS. US Air Target Chart, Series 200, Sheet M0289-2IHL, 5th edition, August 68. Scale 1:200,000 (SECRET)

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Document

1. CIA. DDI/IAR 85014, Expansion of Chinese Iron and Steel Plants 1965-1967, August 1967, (TOP SECRET)

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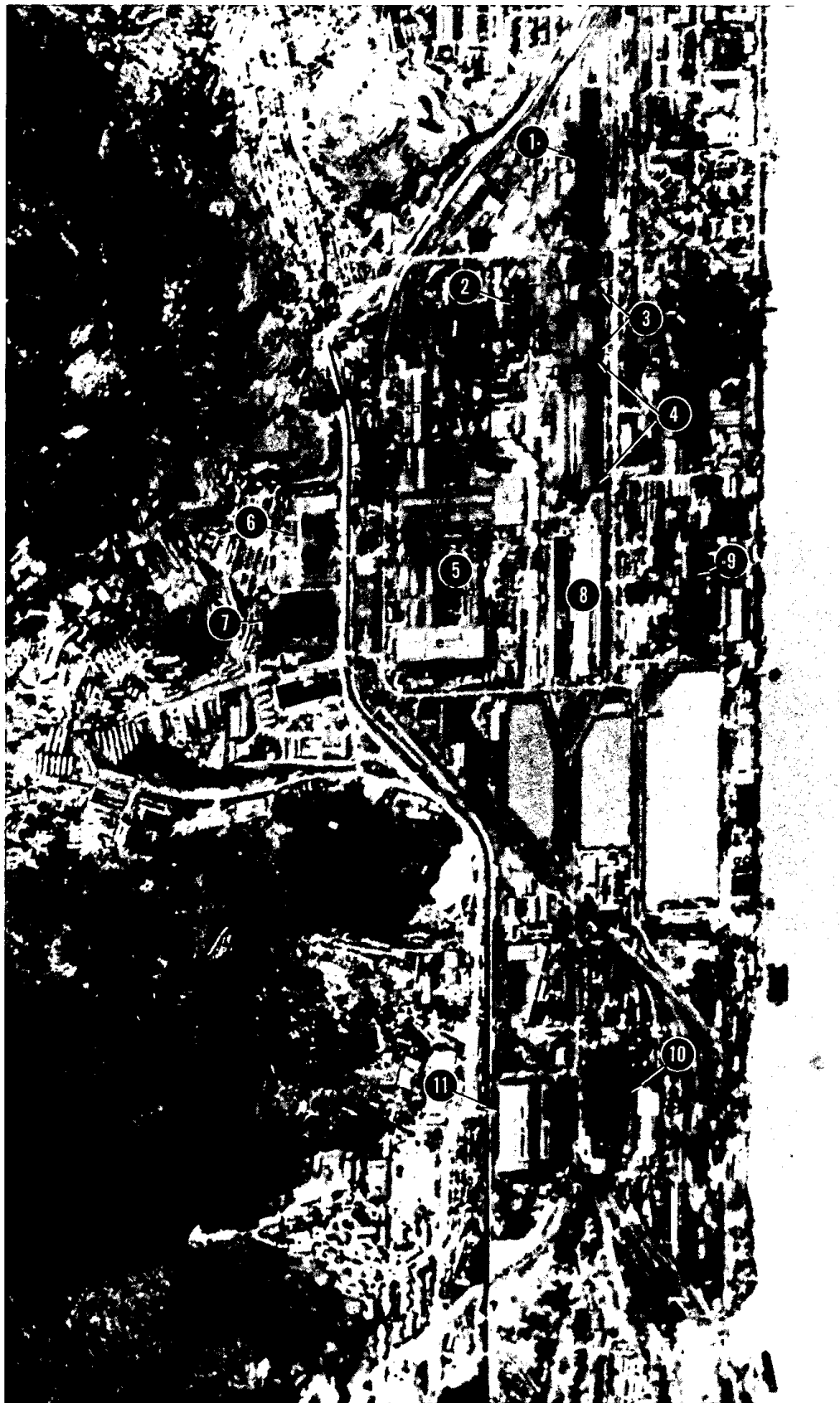


FIGURE 15. HUANG-SHIH IRON AND STEEL PLANT TA-YEH

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HUANG-SHIH IRON AND STEEL PLANT TA-YEH

BASIC DESCRIPTION

The Huang-shih Iron and Steel Plant is located in the center of the city of Huang-shih on the south bank of the Chang Chiang (Yangtze River). The plant is rail, road, and water served, partially secured by a wall and occupies an area of approximately 8,600 by 1,900 feet.

This plant contains only steel producing facilities. It receives iron from a plant located 7.7 nm to the west which will be described in another paragraph. The main production facilities of the steel plant consist of one open-hearth furnace building, a foundry, five rolling mills (the largest one contains a blooming and slabbing section), one forge shop, two fabrication buildings, and a producer gas plant.

An addition to the blooming and slabbing section (Figure 15, Item 5b) was constructed between February 1967 and November 1967. No other construction activity was observed between [REDACTED]

25X1

A moderate level of activity was observed at the steel plant on four of the five photographic missions from [REDACTED].
A low level of activity was observed on coverage of [REDACTED]

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25X1

The iron plant, which is located at geographic coordinates 30-11-30N 114-58-30E, is not listed in the Basic Encyclopedia nor shown on Figure 15. It is road and rail served and has no distinct security. This plant consists of two small blast furnaces and 12 support buildings. Two of the four blast furnaces originally reported 1/ were removed between [REDACTED]

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One of the two blast furnaces at the iron plant was observed in operation on [REDACTED] photography.

25X1

Key to Annotations

Item	Description	Dimensions (Ft)	Roof Cover (Sq Ft)	Remarks
1	Rolling Mill	835 x 100	83,500	
2	Producer Gas Plant	-	-	
3	Open-hearth Furnace Building	Irregular	95,500	3 Stacks
4	Foundry	670 x 120	80,400	
5	Rolling Mill		518,315	
	a. Soaking Pit	675 x 135		
	b. Blooming/Slabbing Mill	680 x 165		
	c. Rolling Mill	515 x 175		
	d. Rolling Mill	515 x 100		
	e. Finishing Mill	460 x 175		
6	Forge Shop	Irregular	77,880	
7	Fabrication Building	395 x 210	82,950	
8	Rolling Mill	750 x 150	112,500	
9	Rolling Mill	605 x 70	42,350	
10	Rolling Mill	Irregular	152,475	
11	Fabrication Building	485 x 370	175,895	

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REFERENCES

25X1

Map

ACIC. US Air Target Chart, Series 200, Sheet MO493-11HL. 3rd edition,
November 65, Scale 1:200,000 (SECRET)

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Document

1. CIA. DDI/IAR 85014, Expansion of Chinese Iron and Steel Plants 1965-1967,
August 1967, (TOP SECRET)

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KUANG-CHOU IRON AND STEEL

BASIC DESCRIPTION

The Kuang-chou Iron and Steel Plant is located on the southwestern edge of Kuang-chou (Canton), China. The plant is road and rail served, partially secured by a wall, and occupies an area approximately 6,000 by 2,000 feet.

The plant contains two by-product coke oven batteries, a coke by-products section, three blast furnaces, a side-blown converter shop, two rolling mills, a probable foundry, a possible forge shop, a fabrication building, a fire brick plant, and a possible thermal power plant.

On imagery of [redacted] one blast furnace (Figure 16, Item 8) and the adjacent supporting facilities, the possible thermal power plant (Item 7), the possible forge shop (Item 10), the fire brick plant (Item 11), and the fabrication building (Item 12) were incomplete. These facilities remained unchanged until after [redacted] construction had resumed and on photography of 12 November 1968 they appeared complete. However, these facilities have not been observed in operation.

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The plant did not appear to be active until [redacted] when a moderate level of activity was observed. Subsequently, a high level of activity was observed at the completed plant facilities on all imagery referenced from 24 [redacted]

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REFERENCES

25X1

Map

67th RTS. US Air Target Chart, Series 200, Sheet M0614-6HL, 4th edition, Dec 64, Scale 1:200,000 (SECRET [redacted])

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Key to Annotations

<u>Item No.</u>	<u>Description</u>	<u>Dimensions (Ft)</u>	<u>Roof Cover (Sq Ft)</u>	<u>Remarks</u>
1	Side-blown Converter Shop	470 x 70	34,500	-
2	Rolling Mill	385 x 60	35,530	-
		145 x 120		
3	Rolling Mill	520 x 50	30,130	-
		150 x 50		
4	Blast Furnaces (2)	-	-	Small
5	By-product Coke Oven Batteries (2)	-	-	-
6	Coke By-products Section	-	-	-
7	Possible Thermal Power Plant	120 x 95	10,700	-
8	Blast Furnace	-	-	Medium
9	Probable Foundry	490 x 110	53,510	-
10	Possible Forge Shop	250 x 75	18,750	-
		120 x 35	4,200	-
11	Fire Brick Plant	275 x 50	13,750	-
12	Fabrication Building	220 x 125	27,500	-

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FIGURE 17. MA-AN-SHAN IRON AND STEEL PLANT.

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MA-AN-SHAN IRON AND STEEL PLANT

BASIC DESCRIPTION

The Ma-an-shan Iron and Steel Plant is located on the east bank of the Chang Chiang (Yangtze River) in the city of Ma-an-shan. The plant is separated into two sections by a portion of the city. Both plant sections are road and rail served and have no identifiable security. The northeast section occupies an area approximately 8,600 by 2,400 feet and the southwest section occupies an area approximately 13,000 by 8,500 feet. The Ma-an-shan Thermal Power Plant

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25X1

is situated immediately north of the plant adjacent to the river.

The iron and steel plant contains two by-product coke oven batteries, a coke by-products section, an iron ore sintering plant, a limestone preparation plant, 15 blast furnaces, three side-blown converter shops, two open-hearth furnaces, a blooming and slabbing mill, a large rolling mill, a foundry, and a fabrication building. Four of the 15 blast furnaces and the blooming and slabbing mill are located north of the side-blown converter shop (Figure 17, Item 2). They are not annotated on the figure because the area is cloud covered.

No construction changes were evident within the plant area between January 1967 1/ and February 1969. A high level of activity was observed at the plant on all referenced imagery from

25X1

Key to Annotations

Item No.	Description	Dimensions (Ft)	Roof Cover (Sq Ft)	Remarks
1	Fire Brick Plant			
2	Side-blown Converter Shops (3)	470 x 120 430 x 125 430 x 65	56,400 53,750 27,950	
3	Blast Furnaces (4)			Medium
4	Iron Ore Sintering Plant			
5	Transformer Substation			
6	Rolling Mill	1,675 x 410	656,200	
7	Open-hearth Furnace Building	340 x 245	83,300	2 Stacks
8	Foundry	375 x 170	63,750	1 Cupola Furnace
9	Fabrication Building	300 x 115	34,500	
10	By-product Coke Oven Batteries (2)			
11	Coke By-products Section			
12	Blast Furnaces (5)			Medium
13	Blast Furnaces (2)			Medium
14	Limestone Preparation Plant			

REFERENCES

25X1

Map

US Air Target Chart, Series 200, Sheet 0493-4HL, 3rd edition,
Jul 63, Scale 1:200,000 (SECRET)

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Document

1. CIA. DDI/IAR 85014, Expansion of Chinese Iron and Steel Plants, 1965-1967, August 1967, (TOP SECRET)

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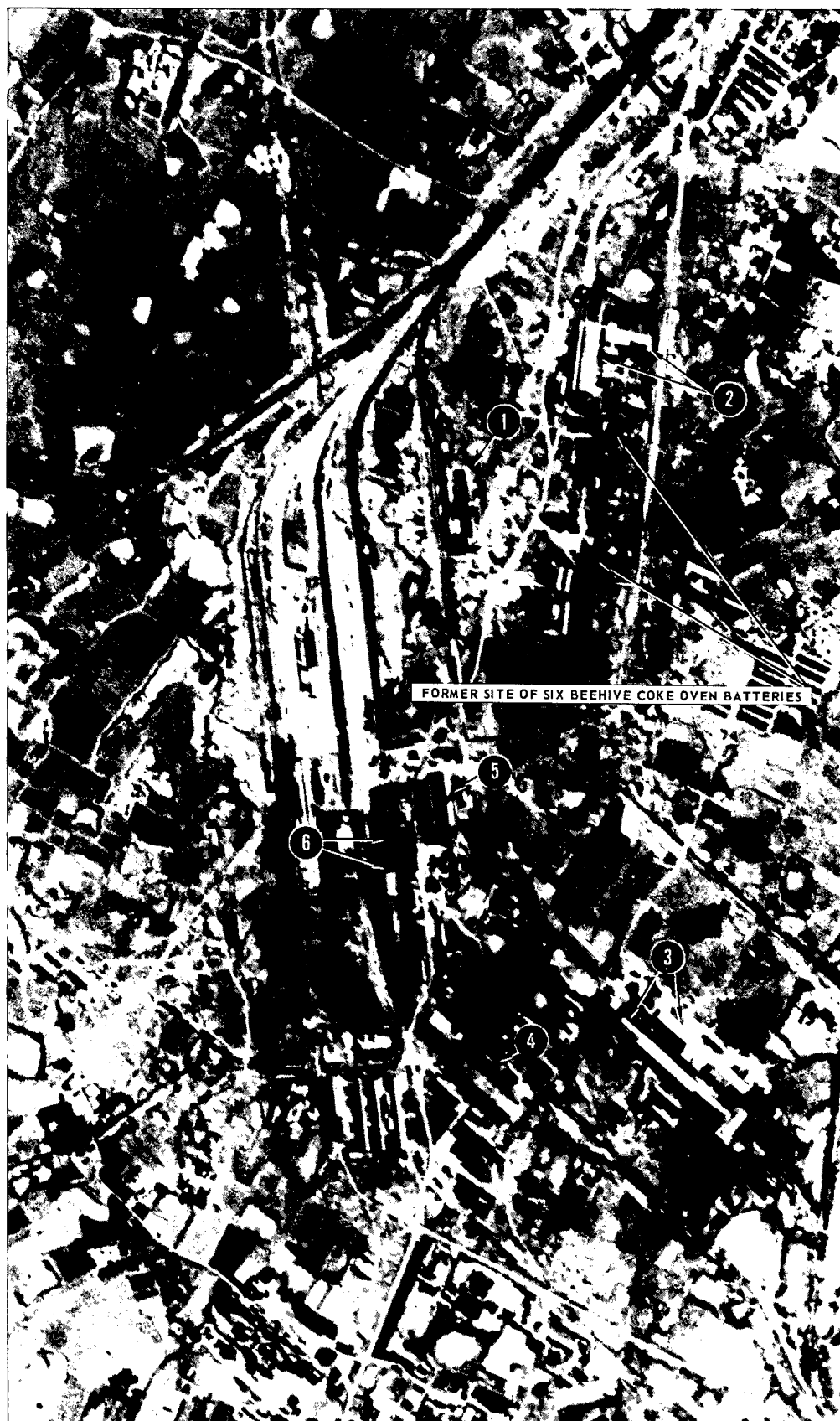


FIGURE 18. NAN-CHANG IRON AND STEEL PLANT

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NAN-CHANG IRON AND STEEL PLANT

BASIC DESCRIPTION

The Nan-chang Iron and Steel Plant is located 5 nm east-southeast of Nan-chang, China. The plant is road and rail served, partially secured, and occupies an area approximately 6,000 by 2,500 feet.

The facility contains a limestone preparation plant, two blast furnaces, a side-blown converter shop, two rolling mills, a forge/foundry and two unidentified buildings.

Construction of the two rolling mills and the unidentified buildings was started prior to February 1967 1/ and was nearing completion when observed on imagery of [redacted] Six beehive coke oven batteries which were previously located at this plant were removed between February 1967 1/ and August 1967.

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The plant was observed to be operating at a high level of activity on imagery [redacted] A moderate level of activity was observed on imagery of [redacted] and a low level of activity was observed on imagery of [redacted]

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Key to Annotations

Item No.	Description	Dimensions (Ft)	Roof Cover (Sq Ft)	Remarks
1	Limestone Preparation Plant	365 x 125	49,990	
2	Unidentified Buildings (2)	320 x 100 225 x 70	32,000 15,750	
3	Rolling Mill (2)	Irregular	123,205	
4	Side-blown Converter Shop	595 x 140	81,800	
5	Forge/Foundry	250 x 80	20,000	
6	Blast Furnaces (2)	-	-	Medium

REFERENCES

25X1

Map

USNO. US Air Target Chart, Series 200, Sheet 0493-22HL, 3rd edition, February 64, Scale 1:200,000 (SECRET/CONTROLLED DISSEM)

Document

1. CIA. DDI/IAR 85014, Expansion of Chinese Iron and Steel Plants 1965-1967, August 1967, [redacted] (TOP SECRET [redacted])

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FIGURE 19. NAN-CHING IRON PLANT, YUNG-LI STEEL

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NAN-CHING IRON PLANT, YUNG-LI STEEL

BASIC DESCRIPTION

The Nan-ching Iron Plant, Yung-li Steel is located 9 nm north-northwest of the city of Nan-ching, China. The plant is rail and road served, partially secured by a wall, and occupies an area approximately 5,000 by 2,200 feet.

The production facilities of the plant consist of a limestone preparation plant, two blast furnaces, one side-blown converter shop and a rolling mill.

No construction changes were evident within the plant area between January 1967 1/ and November 1968.

A moderate level of activity was observed at this plant on four photo missions from

25X1

Key to Annotations

<u>Item No.</u>	<u>Description</u>	<u>Dimensions (Ft)</u>	<u>Roof Cover (Sq Ft)</u>	<u>Remarks</u>
1	Rolling Mill	725 x 140	110,200	
2	Side-blown Converter Shop	385 X 165 245 x 50	53,825	
3	Blast Furnaces (2)	-	-	Medium
4	Limestone Preparation Plant			

REFERENCES

25X1

Map

2nd RTS. US Air Target Chart, Series 200, Sheet M0386-22HL, 3rd edition
September 67. Scale 1:200,000 (SECRET)

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Document

1. CIA. DIA/IAR 85014, Expansion of Chinese Iron and Steel Plants 1965-1967,
August 1967, (TOP SECRET)

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PAO-TOU IRON AND STEEL PLANT KUN-TU-LUN

BASIC DESCRIPTION

The Pao-tou Iron and Steel Plant is located about 12.5 nm west-northwest of the city of Pao-tou. The plant is rail and road served, has no discernible security and occupies an area approximately 17,300 by 5,200 feet.

The plant contains an ore concentration plant, an iron ore sintering plant, three by-product coke oven batteries, a coke by-products section, two blast furnaces, an open-hearth furnace building, a rolling mill with at least four soaking pits, a forge/foundry, a foundry, a fabrication building, and the Pao-tou Thermal Power Plant No. 1, Iron and Steel Plant Kun-tu-lun. The open-hearth furnace building has eight furnaces served by four stacks. Two of these furnaces have been installed since 1/ Two additional furnaces appear to be under construction and will be connected to the fifth stack.

In addition to the furnaces mentioned above, construction since includes enlargement of the rolling mill by approximately 50 percent. On imagery of the unidentified facility (Item 3) was first observed under construction. The facility appeared to be about 40 percent complete on imagery.

A high level of activity was observed at the plant on all referenced imagery from

REFERENCES



Map

15th RTS. US Air Target Chart, Series 200, Sheet 0288-22HL, 2nd edition, Nov 64. Scale 1:200,000 (SECRET

Document

1. CIA. DDI/IAR 85014, Expansion of Chinese Iron and Steel Plants, 1965-1967, August 1967, (TOP SECRET

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Key to Annotations

<u>Item No.</u>	<u>Description</u>	<u>Dimensions (Ft)</u>	<u>Roof Cover (Sq Ft)</u>	<u>Remarks</u>
1	Coke By-products Section			
2	By-product Coke Oven Batteries (3)			
3	Unidentified Facility			Under Construction
4	Iron Ore Sintering Plant			
5	Blast Furnaces (2)			Large
6	Open-hearth Furnace Building	1,195 x 275	309,110	5 Stacks
7	Probable Railroad Car Repair Shop	440 x 210	92,815	
8	Rolling Mill		1,306,787	
	a. Soaking Pits	Irregular		4 Stacks
	b. Blooming and Slabbing Mill	810 x 280		
	c. Rolling Mill	Irregular		
9	Foundry	Irregular	172,790	
10	Forge/Foundry	Irregular	192,820	
11	Fabrication Building	865 x 225	221,685	

TOP SECRET



FIGURE 20. PAO-TOU IRON AND STEEL PLANT KUN-TU-LUN.

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PEN-CHI IRON AND STEEL PLANT KUNG-YUAN

BASIC DESCRIPTION

The Pen-chi Iron and Steel Plant is located in the southwestern sector of Pen-chi. It is road and rail served, partially secured by a wall, and occupies an area approximately 13,000 by 5,000 feet. The Pen-chi Heat and Thermal Power Plant No. 3, Steel Plant [] is located within the plant area and provides steam and electric power. The Pen-chi Iron Plant [] is located 2.6 nm to the north-northeast.

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The iron and steel plant contains an iron ore sintering plant, a firebrick plant, three by-product coke oven batteries, a coke by-products section, two blast furnaces, four rolling mills, two forge shops, two forges/foundries and a fabrication building. No steel producing furnaces were identifiable within the plant area. It is possible that some of the pig iron produced at this plant is transported to the side-blown converter shop located at the Pen-chi Iron Plant.

No construction activity was evident within the plant from [] / 25X1
[] A high level of activity was observed at the plant on all imagery 25X1
during this period with the exception of [] when moderate activity 25X1
was observed.

Key to Annotations

Item No.	Description	Dimensions (Ft)	Roof Cover (Sq Ft)	Remarks
1	Blast Furnaces (2)			Medium
2	Coke By-products Section			
3	By-product Coke Oven Batteries (3)			
4	Rolling Mill	920 x 190	173,000	
5	Rolling Mill	420 x 110	45,600	
6	Forge Shop	315 x 140	44,100	
7	Forge Shop	400 x 130	52,000	
8	Rolling Mill	530 x 180	95,400	
9	Rolling Mill	700 x 225	157,500	
10	Fabrication Building	400 x 135	54,000	
11	Forge/Foundry	400 x 115	46,000	
12	Forge/Foundry	325 x 300	97,500	

REFERENCES

25X1

Map

[] US Air Target Chart, Series 200, Sheet M0290-16HL, 4th edition, 25X1
Jul 65, Scale 1:200,000 (SECRET) [] 25X1
[] 25X1

Document

1. CIA. DDI/IAR 85014, Expansion of Chinese Iron and Steel Plants 1965-1967, August 1967, [] (TOP SECRET) 25X1

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PEN-CHI IRON PLANT

BASIC DESCRIPTION

The Pen-chi Iron Plant is located in the northern sector of Pen-chi, China. The plant is rail and road served, secured by a wall, and occupies an area approximately 7,700 by 960 feet. The Pen-chi Thermal Power Plant No. 2, Steel Plant [] is situated in the southeast corner of the plant and the Pen-chi Iron and Steel Plant Kung-yuan [] is located 2.6 nm south-southeast of the plant.

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The Pen-chi Iron Plant contains two by-product coke oven batteries, a small coke by-products section, two blast furnaces, and a probable side-blown converter shop. The steel producing furnaces in the side-blown converter shop may be processing the pig iron produced at the Pen-chi Iron and Steel Plant Kung-yuan since the latter has no identifiable steel producing facility.

No construction activity was evident at this plant between January 1967 1/ and March 1969. A high level of activity was observed on photographic coverage of this plant from September 1967 to March 1969.

Key to Annotations

<u>Item No.</u>	<u>Description</u>	<u>Dimensions (Ft)</u>	<u>Roof Cover (Sq Ft)</u>	<u>Remarks</u>
1	Coke By-products Section			
2	By-product Coke Oven Batteries (2)			
3	Blast Furnaces (2)			Medium
4	Probable Side-blown Converter Shop	300 x 120	36,000	3 Converter Stacks

REFERENCES

25X1

Map

[] US Air Target Chart, Series 200, Sheet M0290-16HL, 4th edition,
Jul 65, Scale 1:200,000 (SECRET [])

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Document

1. CIA. DDI/IAR 85014, Expansion of Chinese Iron and Steel Plants
1965-1967, August 1967, [] (TOP SECRET [])

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SHANG-HAI IRON AND STEEL PLANT NO. 1

BASIC DESCRIPTION

The Shang-hai Iron and Steel Plant No. 1 is located in the northern sector of Shang-hai. The plant is road and rail served, partially secured by a fence, and occupies an irregular-shaped area of approximately 7,000 by 3,200 feet. The Shang-hai Steel Plant No. 5 is situated 0.7 nm to the north.

25X1

The main production facilities consist of five by-product coke oven batteries, a coke by-products section, a limestone preparation plant, two blast furnaces, three basic oxygen furnaces, two side-blown converter shops, a blooming and slabbing mill, a rolling mill, a foundry, and numerous support buildings.

There was no apparent construction activity at this plant between [redacted] 25X1
[redacted] A high level of activity was observed at this plant 25X1
on all referenced imagery from [redacted] 25X1

Key to Annotations

<u>Item No.</u>	<u>Description</u>	<u>Dimensions (Ft)</u>	<u>Roof Cover (Sq Ft)</u>	<u>Remarks</u>
1	Coke By-products Section			
2	By-product Coke Oven Batteries (5)			
3	Foundry	Irregular	207,300	2 Stacks
4	Side-blown Converter Shop	595 x 170	79,985	
5	Blooming and Slabbing Mill	Irregular	152,860	
6	Rolling Mill	1,000 x 160	151,800	
7	Blast Furnaces (2)			Medium
8	Side-blown Converter Shop	835 x 180	146,160	
9	Basic Oxygen Furnace Section	190 x 50	9,500	3 Furnaces
10	Limestone Preparation Plant			

REFERENCES

25X1

Map

[redacted] US Air Target Chart, Series 200, Sheet 0492-2HL, 2nd edition, Aug 64, Scale 1:200,000 (SECRET)

25X1

Document

1. CIA. DD1/IAR 85014, Expansion of Chinese Iron and Steel Plants 1965-1967, August 1967, [redacted] (TOP SECRET) [redacted]

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FIGURE 24. SHANG-HAI IRON AND STEEL PLANT NO. 3,

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Key To Annotations

<u>Item No.</u>	<u>Description</u>	<u>Dimensions (Ft)</u>	<u>Roof Cover (Sq Ft)</u>	<u>Remarks</u>
1	Rolling Mill	Irregular	169,200	
2	Rolling Mill	1,000 x 225	250,500	
3	Blooming and Slabbing Mill	750 x 160	180,000	
4	Side-blown Converter Shop	640 x 155	110,200	At Least Four Furnaces
5	Limestone Preparation Plant	-	-	-
6	Blooming and Slabbing Mill	Irregular	262,500	-
7	Rolling Mill	520 x 60	50,000	-
8	Side-blown Converter Shop	550 x 120	82,000	At Least Six Furnaces
9	Rolling Mill	510 x 160	81,600	-
10	Open-hearth Furnace Building	400 x 160	64,000	2 Stacks
11	Rolling Mill	475 x 200	95,000	
12	Rolling Mill	Irregular	315,000	

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SHAO-KUAN IRON AND STEEL PLANT MA-PA

BASIC DESCRIPTION

The Shao-kuan Iron and Steel Plant Ma-pa is located 6.8 nm south-southeast of the city of Shao-kuan (Chu-chiang). The plant has no distinct security and it is rail and road served. It contains an older section measuring approximately 1,800 by 600 feet and a new section measuring approximately 4,400 by 1,100 feet.

The older section consists of a fabrication building, a side-blown converter shop, one blast furnace, and a possible beehive coke oven. The new section, which is located 1 nm east-northeast of the older section, includes one blast furnace, two unidentified buildings, a possible electric furnace building, two rolling mills, two storage buildings, and a transformer substation.

Ground scarring for the new section (Figure 26) was evident when the plant was first observed in November 1964. Construction on this section continued slowly until August 1966. One rolling mill (Item 10) and the possible electric furnace building (Item 8) were observed complete in October 1967. All facilities appeared to be complete when observed on imagery of February 1969, except the blast furnace (Item 6) and the unidentified building (Item 7).

No smoke or steam was observed emanating from any of the facilities on the photography available from [redacted]. However, dark stains on the roofs of the possible electric furnace building and the rolling mill (Item 10) were observed for the first time on photography of October 1967. This indicates that these two buildings probably had been in operation. Between [redacted] a supply of coal was transported to the older section of the plant, possibly indicating a pending resumption of operations. However, photography of [redacted] did not reveal any other signs of activity.

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REFERENCES

25X1

Map

15th RTS. US Air Target Chart, Series 200, Sheet 0498-21HL, 1st edition, Mar 62, Scale 1:200,000 (SECRET)

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Key to Annotations

<u>Item No.</u>	<u>Description</u>	<u>Dimensions (Ft)</u>	<u>Roof Cover (Sq Ft)</u>	<u>Remarks</u>
1	Fabrication Building	300 x 60	18,000	
2	Side-blown Converter Shop	250 x 45	11,250	
3	Blast Furnace			Small with Horizontal Hot Stoves
4	Possible Beehive Coke Oven			
5	Unidentified Building	140 x 50	6,950	
6	Blast Furnace			Medium, U/C
7	Unidentified Building			U/C
8	Possible Electric Furnace Building	210 x 120	25,200	
9	Rolling Mill	Irregular	29,700	
10	Rolling Mill	610 x 100	63,225	
11	Storage Building	180 x 65	11,700	
12	Storage Building	200 x 85	17,000	
		130 x 55	7,150	
13	Transformer Substation			1 Transformer

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25X1



FIGURE 26. SHAO-KUAN IRON AND STEEL PLANT MA-PA

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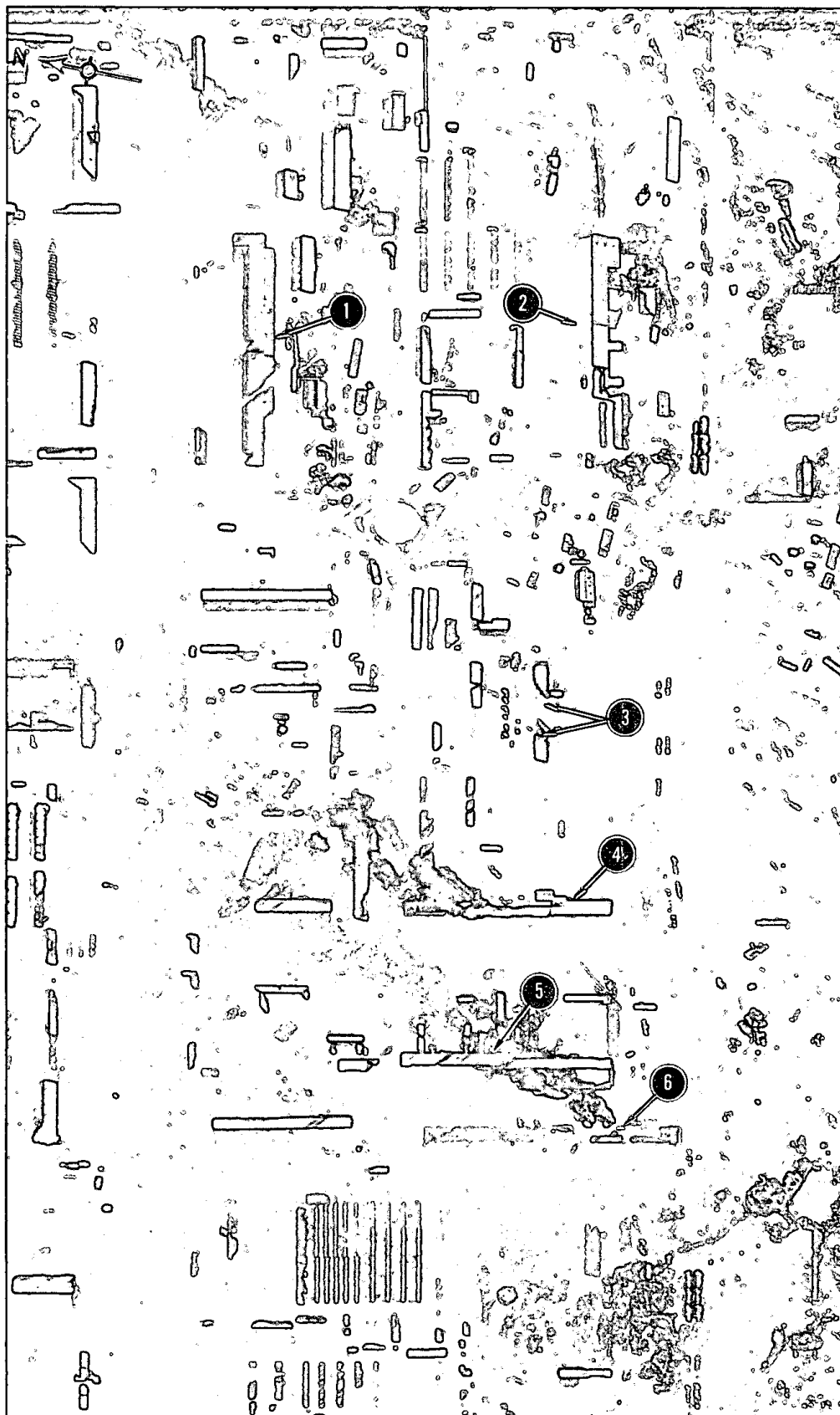


FIGURE 27. SHEN-YANG IRON AND STEEL PLANT,

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SHEN-YANG IRON AND STEEL PLANT

BASIC DESCRIPTION

The Shen-yang Iron and Steel Plant is located in the northeast sector of Shen-yang. It is road and rail served, partially secured by a wall, and occupies an area of approximately 3,400 by 1,100 feet.

The main production facilities consist of two blast furnaces, a probable side-blown converter shop, three forges/foundries, and a fabrication building.

No new construction was evident within the plant area from

25X1
25X1

A moderate level of activity was observed at the plant on the imagery of
A high level of activity was observed on

25X1
25X1

Key to Annotations

Item No.	Description	Dimensions (Ft)	Roof Cover (Sq Ft)	Remarks
1	Forge/Foundry	535 x 80	42,270	Small
2	Fabrication Building	470 x 75	33,190	
3	Blast Furnaces (2)			
4	Probable Side-blown Converter Shop	410 x 55	22,030	
5	Forge/Foundry	420 x 55	23,670	
6	Forge/Foundry	515 x 75 355 x 45	38,625 15,920	

REFERENCES

25X1

Map

67th RTS. US Air Target Chart, Series 200, Sheet M0290-IIHL, 4th edition,
Jan 66, Scale 1:200,000 (SECRET)

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Document

1. CIA. DDI/IAR 85014, Expansion of Chinese Iron and Steel Plants,
1965-1967, August 1967, (TOP SECRET)

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SHIH-CHING-SHAN IRON AND STEEL PLANT

BASIC DESCRIPTION

The Shih-ching-shan Iron and Steel Plant is located in the city of Shih-ching-shan, about 11 nm west of Peiping. The plant is rail and road served, has no apparent security system, and occupies an area of approximately 16,000 by 3,000 feet.

The plant contains three by-product coke oven batteries, a coke by-products section, three large blast furnaces, three basic oxygen furnaces, one side-blown converter shop, three rolling mills, one foundry, a fabrication building, an air separation plant and a thermal power plant.

No construction activity was observed at this plant between [redacted]
[redacted] The plant showed a high level of activity on
all referenced imagery from [redacted]

25X1
25X1

25X1

Key to Annotations

Item No.	Description	Dimensions (Ft)	Roof Cover (Sq Ft)	Remarks
1	Rail Car Repair Shop	258 x 249	64,240	
2	Rolling Mill	1,830 x 175	426,110	
3	Rolling Mill	970 x 160	147,115	
4	Foundry	375 x 145	63,605	
5	Fabrication Building	Irregular	275,155	
6	Rolling Mill	520 x 195	104,720	
7	Basic Oxygen Furnace Building	Irregular	165,955	3 Furnaces
8	Side-blown Converter Shop	730 x 135	[redacted]	25X1
9	By-product Coke Oven Batteries (2)			
10	Blast Furnaces (3)			Large
11	By-product Coke Oven Battery			
12	Coke By-products Section			
13	Air Separation Plant			

REFERENCES

25X1

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Map

ACIC. US Air Target Chart, Series 200, Sheet M038I-IHL, 4th edition,
Nov 65, Scale 1: 200,000 (SECRET

25X1

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Document

1. CIA. DDI/IAR 85014, Expansion of Chinese Iron and Steel Plants 1965-
1967, August 1967, (TOP SECRET

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SHIH-TSUI-SHAN IRON AND STEEL PLANT

BASIC DESCRIPTION

The Shih-tsui-shan Iron and Steel Plant is located 6 nm north of Shih-tsui-shan, China on the west bank of the Huang Ho (Yellow River). It is road and partially rail served, has no distinct security, and occupies an area approximately 5,400 by 2,000 feet. The Shih-tsui-shan Thermal Power Plant [redacted] is located approximately 1.3 nm south-southwest of the iron and steel plant. 25X1

The iron and steel plant contains 12 beehive coke oven batteries, two blast furnaces, a producer gas plant, one rolling mill, two fabrication buildings, and an unidentified facility.

The plant did not appear to be in operation when first observed in March 1963, and the coke and iron and steel production facilities have not been observed in operation since then. The removal of plant rail lines and the absence of raw materials at the coke oven batteries and the two blast furnaces indicate that this plant is inactive. Prior to August 1965, a side-blown converter shop was converted into what is now a fabrication building (Item 6, Figure 29). As of December 1968, there were no identifiable facilities for the production of steel at this plant. Construction started on the producer gas plant (Item 2) and the identified facility (Item 8) just prior to August 1965. They were complete when observed in December 1967. They are joined by a pipeline.

With the exception of the producer gas plant and the rolling mill (Item 5), which are associated with the new unidentified facility, no activity was observed on photography from [redacted] 25X1

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25X1



FIGURE 29. SHIH-TSUI-SHAN IRON AND STEEL PLANT

25X1

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Key to Annotations

<u>Item No.</u>	<u>Description</u>	<u>Dimensions (Ft)</u>	<u>Roof Cover (Sq Ft)</u>	<u>Remarks</u>
1	Beehive Coke Oven Batteries (12)			
2	Producer Gas Plant			
3	Blast Furnace			Small
4	Blast Furnace			Small
5	Rolling Mill	470 x 65	29,090	
6	Fabrication Building	415 x 45	18,675	
7	Fabrication Building	285 x 100	28,500	
8	Unidentified Facility			

REFERENCES

25X1

Maps

US Air Target Chart, Series 200, Sheet 0383-4HL, 1st edition,
Oct 62, Scale 1:200,000 (CONFIDENTIAL)

25X1

ACIC. Tactical Pilotage Chart, Sheet G-9A, 1st edition, May 67,
Scale 1:500,000 (UNCLASSIFIED)

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FIGURE 31. TANG-SHAN STEEL PLANT.

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TANG-SHAN STEEL PLANT

BASIC DESCRIPTION

The Tang-shan Steel Plant is located in the northern sector of Tang-shan. It is partially secured by a wall and occupies two separate areas. One area measures approximately 2,100 by 2,100 feet and the other 5,000 by 2,300 feet. Both areas are rail and road served.

The plant contains three small blast furnaces, two side-blown converter shops, three rolling mills, a possible forge and a probable foundry.

Construction of the possible forge (Figure 31, Item 3) was started between [redacted]. The building was still under construction when observed on the imagery of [redacted]. On imagery of [redacted] several support buildings adjacent to the blast furnaces (Item 1) appeared to be under construction. These buildings appeared unchanged on the photography of [redacted]

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The blast furnaces have never been seen in operation. No raw materials for the furnaces have ever been observed. A moderate level of activity was observed in the remainder of the plant on [redacted]. A high level was observed on all imagery from [redacted] 1968.

25X1

25X1

Key to Annotations

<u>Item No.</u>	<u>Description</u>	<u>Dimensions (Ft)</u>	<u>Roof Cover (Sq Ft)</u>	<u>Remarks</u>
1	Blast Furnaces (3)			Small
2	Rolling Mill	1,090 x 160	227,965	
3	Possible Forge	Irregular	47,485 (Approx)	Under Construction
4	Probable Foundry	Irregular	52,175	
5	Side-blown Converter Shop	1,060 x 120	127,200	
6	Rolling Mill	Irregular	63,935	
7	Rolling Mill	Irregular	62,365	
8	Side-blown Converter Shop	Irregular	143,845	

REFERENCES

25X1

Map

[redacted] US Air Target Chart, Series 200, Sheet 0381-2HL, 2nd edition,
Jan 64, Scale 1:200,000 (SECRET)

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FIGURE 32. TIEN-CHING STEEL PLANT 2

-77-

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TIEN-CHING STEEL PLANT NO. 2

BASIC DESCRIPTION

The Tien-ching Steel Plant No. 2 is located in the southern sector of Tien-ching. The plant is road and rail served, has no identifiable security, and occupies an area approximately 5,000 by 1,500 feet.

The plant contains two basic oxygen furnaces, two side-blown converter shops, a blooming and slabbing mill and an air separation plant.

Between January 1965 and November 1966 a basic oxygen furnace section (Figure 32, Item 2) and its supporting facilities were constructed at this plant. The supporting facilities include the air separation plant (Item 5), which supplies the required oxygen, and a waste gas precipitating facility, adjacent to the furnace section, which removes noxious materials from the furnace effluent. This new furnace section is very similar to the facility at the Shang-hai Iron and Steel Plant No. 1 and could contain two furnaces of up to 75 ton capacity.

The basic oxygen furnace section was observed in operation only on imagery of [redacted]. A moderate level of activity was observed in the remainder of the plant on all imagery from [redacted].

25X1

25X1

Key to Annotations

<u>Item No.</u>	<u>Description</u>	<u>Dimensions (Ft)</u>	<u>Roof Cover (Sq Ft)</u>	<u>Remarks</u>
1	Blooming and Slabbing Mill	Irregular	164,815	
2	Basic Oxygen Furnace Section	160 x 60	9,600	2 Furnaces
3	Side-blown Converter Shop	1,090 x 150	163,500	
4	Side-blown Converter Shop	725 x 120	87,000	
5	Air Separation Plant			

REFERENCES

25X1

Map

15th RTS. US Air Target Chart, Series 200, Sheet 0381-6HL, 3rd edition,
May 64, Scale 1:200,000 (SECRET)

TOP SECRET

25X1

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WU-HAN IRON AND STEEL PLANT

BASIC DESCRIPTION

The Wu-han Iron and Steel Plant is located 9 nm northeast of Wu-han, China. The plant is rail and road served, partially secured by a wall, and occupies an area of about 16,500 by 5,000 feet. The collocated Wu-han Heat and Thermal Power Plant Ching-shan [] provides steam and electrical power to the plant.

25X1

The plant contains five by-product coke oven batteries, a coke by-products section, three large blast furnaces, at least eight and possibly nine open hearth furnaces, a rolling mill, a foundry, two forges/foundries, three fabrication buildings, an iron ore sintering plant, and the heat and power plant. The spacing between the smoke stacks serving the open hearth furnace building indicates that one and possibly two of the stacks each serves two open hearth furnaces.

Between [] the open hearth furnace building (Figure 33, Item 5) was extended by approximately 500 feet, increasing the number of open hearth furnaces by two. No other construction activity was observed on referenced imagery.

25X1

The plant showed a high level of activity on all referenced imagery from []

25X1

REFERENCES

25X1

Map

[] US Air Target Chart, Series 200, Sheet M0493-6HL, 3rd edition, Oct 65, Scale 1:200,000 (SECRET [])

25X1

25X1

25X1

Document

1. CIA. DDI/IAR 85014, Expansion of Chinese Iron and Steel Plants 1965-1967, August 1967, [] (TOP SECRET [])

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Key to Annotations

<u>Item No.</u>	<u>Description</u>	<u>Dimensions (Ft)</u>	<u>Roof Cover (Sq Ft)</u>	<u>Remarks</u>
1	Coke By-products Section			
2	By-product Coke Oven Batteries (5)			
3	Blast Furnaces (3)			Large
4	Iron Ore Sintering Plant			
5	Open Hearth Furnace Building	1,600 x 215	403,965	7 Stacks
6	Rolling Mill		1,941,125	
	a. Soaking Pits	1,005 x 190		5 Stacks
	b. Blooming and Slabbing Mill	955 x 330		
	c. Rolling Mill	2,550 x 275		
	d. Rolling Mill	1,825 x 335		
7	Heat and Thermal Power Plant			
8	Fabrication Building	550 x 255	155,560	
9	Fabrication Building	Irregular	88,905	
10	Forge/Foundry	620 x 205	145,470	
11	Forge/Foundry	580 x 270	156,600	
12	Fabrication Building	480 x 190	91,200	
13	Foundry	Irregular	209,785	

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25X1



FIGURE 33. WU-HAN IRON AND STEEL PLANT.

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WU-LU-MU-CHI IRON AND STEEL PLANT AUGUST I

BASIC DESCRIPTION

The Wu-lu-mu-chi Iron and Steel Plant August I is located about 14 nm west-northwest of Ti-hua (Wu-lu-mu-chi), China. It is road and rail served, partially secured by a wall, and occupies an irregular-shaped area measuring about 6,500 by 2,900 feet.

The main production facilities consist of 10 beehive coke oven batteries, one large blast furnace, one side-blown converter shop, two rolling mills, three fabrication buildings, and a possible iron ore sintering plant.

No apparent changes were observed on small-scale photography of the plant from [redacted] The facilities appeared moderately active during this time period.

25X1

Key to Annotations

Item	Description	Dimensions (Ft)	Roof Cover (Sq Ft)	Remarks
1	Beehive Coke Oven Batteries (10)	-	-	-
2	Rolling Mill	610 x 65	39,650	-
3	Rolling Mill	320 x 100 172 x 120	52,640	-
4	Side-blown Converter Shop	450 x 100	45,000	-
5	Fabrication Building	480 x 120	57,600	-
6	Fabrication Building	470 x 115	54,050	-
7	Blast Furnace	-	-	Large
8	Fabrication Building	Irregular	-	-
9	Possible Iron Ore Sintering Plant	-	-	-

REFERENCES

25X1

Map

ACIC. US Air Target Chart, Series 200, Sheet M0330-3HL, 2nd edition, Dec 65 (SECRET [redacted])

25X1

25X1

Document

1. CIA. DDI/IAR 85014, Expansion of Chinese Iron and Steel Plants 1965-1967, August 1967, [redacted] (TOP SECRET [redacted])

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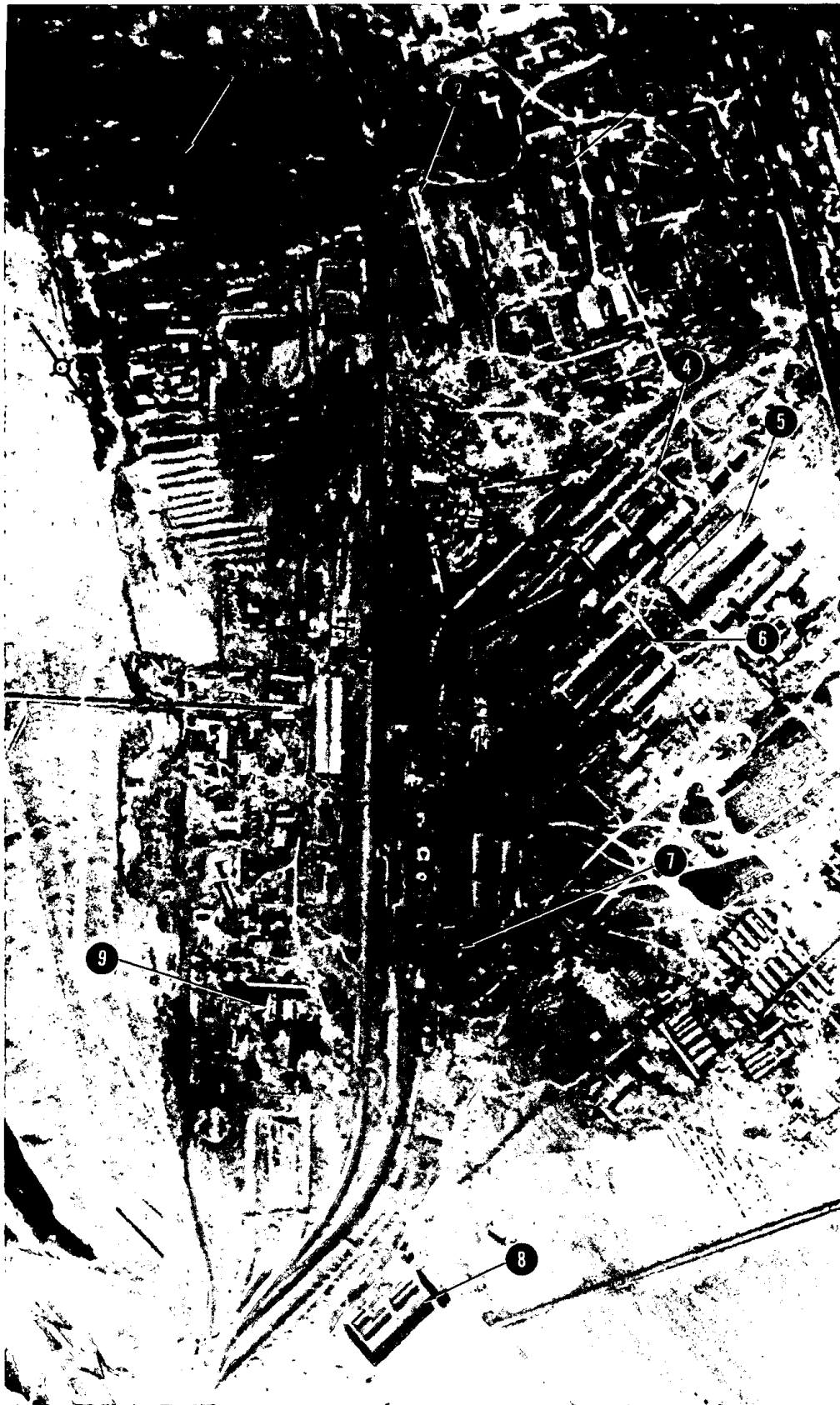


FIGURE 34. WU-LU-MU-CHI IRON AND STEEL PLANT,

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